Application No. 09/824,053

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE RECE

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Serial No.: 09/824,053

Peter STOUGAARD et al.

Art Unit: 1652

Filed: April 3, 2001

Examiner: W. Moore

For:

RECOMBINANT HEXOSE OXIDASE, A METHOD OF PRODUCING SAME AND

USE OF SUCH ENZYME

SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

Sir:

In accordance with 37 C.F.R. §§ 1.56, 1.97, and 1.98, Applicants respectfully request consideration of the references listed on the attached Form PTO-1449 (modified). Copies of the references listed are also enclosed, except for references 60, "Conference May 6-8, 1999 in Santorini, Greece, Lipases of Lipids Structure, Function and Biotechnological Applications, Slides presented by Charlotte Poulsen," 67, "Haaarasilta, S. et al. (1993) in Baking Industry Europe (Alan Gordon, editor), pp. 49-52", 68, Webster's Third New International Dictionary (1981) - page 1065 and 30A, Chilean Patent Application No. 875-1994 which we will forward when we receive them.

This Supplemental Information Disclosure Statement (IDS) is not to be construed as a representation that a search has, or has not, been conducted or that no better art exists. The

filing of this Supplemental IDS is not to be construed as admission that the information cited in 08/04/2003 ADSKRN1 00000094 09824053

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Atty. Docket: 54320.000008 Application No. 09/824,053

the Supplemental IDS is, or is considered to be, material to patentability as defined in 37 C.F.R. § 1.56(b).

Applicants respectfully request that the Examiner consider the references cited on the PTO-1449 and that the Examiner indicate that the references have been considered in this application by returning a copy of the Form PTO-1449 with the Examiner's initials in the left column per MPEP 609.

In the Office Action of January 16, 2003 Applicants were advised that certain documents had not been submitted with the IDS filed on November 4, 2002 ("November 4th IDS"). Applicants respectfully point out that most of those documents were cited or filed in the Patent Office in a prior U.S. Patent Application 08/669,304 (which was filed on July 12, 1996) and has issued as U.S. Patent No. 6,251,626). The present application is a divisional of the prior '304 application under 35 USC § 120, and the prior '304 application was properly identified in the original IDS. Thus, pursuant to 37 C.F.R. § 1.98 (d), copies of such documents need not be submitted. Specifically, the Office Action stated that documents 1-5, 11-14, 17, 19-32, 36, 37, and 44-94 from the November 4th IDS were not submitted. Documents 36, 86, 87, 88, and 94 from the November 4th IDS (identified on the attached Form PTO-1449 as documents nos. 30, 69, 70, 71 and 3, respectively) are being resubmitted with the current IDS. Document 21 appears to be identical to document 22, which was cited or filed in the prior U.S. Patent Application 08/669,304, as indicated by listing thereof on the face of the issued patent 6,251,626. All other documents identified by the Examiner as not having been submitted were cited or filed in the prior '304 application.

Applicants also wish to provide supplemental, explanatory information regarding some of the cited references. Listed on the Form PTO-1449 included with the November 4, 2002

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IDS are U.S. and Canadian equivalents of some of the Chilean patent applications, as follows:

Chilean Application	Equivalent U.S. Patent	Equivalent Canadian Patent
1595-1994	5,650,188	2,134,597
858-1991	5,059,430	
875-1994	5,916,607	2,151,978
1363-1995		2,157,718

Chilean application 1376-1992 to V. Destefanis does not appear to have a U.S. equivalent. However, V. Destefanis has a U.S. Patent No. 5,318,785, which appears to be directed to improvements in breadmaking. The patent was listed on the Form PTO-1449 included with the November 4th IDS. Applicants' indication herein that certain patents or applications are equivalent ("equivalents") to any other patents or applications is not a representation that the substance of the equivalents corresponds to the substance of the other patents or applications. It is only an indication that a search of a computerized database identified such equivalents.

The Chilean patent applications listed on the Form PTO-1449 included with the November 4, 2002 IDS were cited in a Chilean patent application corresponding to the U.S. Patent Application Serial No. 08/676,186 (now U.S. Patent 6,358,543). A Chilean counsel advised Applicants that one of the Chilean applications cited in the Chilean application corresponding to the U.S. '543 Patent was designated by number 875-1995. That number appears to be in error insofar as it does not correspond to the Dutch patent application (NL 94201742.7 of June 17, 1994) from which it claims priority. Chilean patent application 875-1994 appears to correspond to the aforementioned Dutch patent application and it was listed in the November 4th IDS.

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This Supplemental Information Disclosure Statement is being submitted after the mailing of a non-final Office Action, but is believed to be prior to a final Office Action or a Notice of Allowance. Pursuant to 37 C.F.R. § 1.97(c)(2), a check in the amount of \$180.00 as set forth in § 1.17(p) is enclosed. In the event any variance exists between the amount enclosed and the Patent Office charges, please charge or credit any difference to the undersigned's Deposit Account No. 50-0206.

Date: August 1, 2003

Respectfully submitted, HUNTON & WIELIAMS LLP

By:

Stanislaus Aksman Registration No. 28,562

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

Complete if Known Application Number 09/824,053 Filing Date April 3, 2001 ENTER 1600/2900

(use as many sheets as necessary)

U.S. Patent Document

Sheet of

First Named Inventor	Peter STOUGAARD et TICOLO			
Group Art Unit	1652	U		
Examiner Name	W. Moore			
Attorney Docket Number	54320.000008			

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	1.	531878	5	DeS	eStefanis 06-07-1994 gner et al. 03-21-2000		06-07-1994						
	2.	603998	3	Wagr			03-21-2000						
	3.	09/932,9	23	Søe	et al.	filed 08-21-2001							
	4.	10/040,3	94				filed 01-09-2002 filed 05-17-2002						
	5.	10/150,4	29	Søe									
	6.	640672	3	Søe	et al.	(06-18-2002						
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	7.	CA	2012723		Maat et	al.	09-23-1990)	Canada	Y			
	8.	JP	7-274807A				10-24-1995	5	Japan	N			
_	9.	JP	3-164127				07-16-1991		Japan	N			
	10.	JP	4-207146				07-29-1992	2	Japan	N			
	11.	JP	4-207145				07-29-1992	2	Japan	N			
	12.	JP	2-224143				09-06-1990)	Japan	N			
	13.	EP	0010296		Nagai et		04-30-1980)	Europe	Y			
	14.	EP	0468731		Nobuyoshi	et al.	01-29-1992	2	Europe	Y			
	15.	EP	0585988 B1		Van Eljk e		03-09-1994	1	Europe	Y			
	16.	GB	2,358,784		Jorn Borch	Soe	08-08-2001						
	17.	JP	04-200339 (and English language abstract)		Mikiko,	S.	07-21-1992	2		N			
	18.	JP	06-296467 (and English language abstract)		Masaaki,	Α.	10-25-1994			N			
	19.	wo	94/04035		Olesen et	al.	03-03-1994			Y			
	20.	wo	96/39851		Søe et a	1.	12-19-1996			Y			
	21.	wo	98/45453		Poulsen et	al.	10-15-1998			Y			
	22.	wo	99/31990		Schneider e	t al.	07-01-1999			Y			
	23.	wo	00/32758		Bojsen et	al.	06-08-2000			Y			

U.S. PATENT DOCUMENTS

Examiner Signature	Date Considered	

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¹ Unique citation designation number. 2 See attached Kinds of U.S. Patent Documents. 3 Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). 4 For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. 5 Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. Applicant is to place a check mark here if English language Translation is attached.

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Substitute for form 1449A/PTO Complete if Known Application Number 09/824,053 INFORMATION DISCLOSURE 2003 Filing Date April 3, 2001 STATEMENT BY APPLICANT First Named Inventor Peter STOUGAARD et al. ECH CENTER 1600/2900 1652 Group Art Unit W. Moore (use as many sheets as necessary) Examiner Name 54320.000008 Sheet 2 of Attorney Docket Number

				FOREIGN	PATENT DOCUM	ENTS	,	
Examiner Initials*	Cite No.1	Office ³ Number ⁴ Kind Code ⁵ (if known)		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Country	Translation (Y/N)	
	24.	wo	01/39602 A1	(ij kilowii)	Søe	06-07-2001		Y
	25.	wo	02/00852		Tsutsumi et al.	01-03-2002		Y
	26.	wo	02/03805		Budolfsen et al.	01-17-2002	1	Y
	27.	wo	02/065854		Ross et al.	08-29-2002		Y
	28.	wo	02/066622		Tsutsumi et al.	08-29-2002		. Y
	29.	DE	4301904		Kopetzki et al.	02-10-1994	Denmark	Y
	30.	CL	858-1991		Patent Application	03-10-1992	Chilean	
	30A	CL	875-1994		Patent Application		Chilean	(No copy)
	•	NON-PA	TENT LITER	TURE DO	CUMENTS (Including	Author, Title, Date, Pertinent Pag	ges, Etc.)	
Examiner Initials*	Cite No.1	1,01,11					,	-
Illiuais	31.	Poulcen C et al. "Purification and Characterization of a Heyose Ovidese with Excellent Strengthening Effects in Brea						
	32.	"Effect of I European C	Different Hexose O Counterpart Applica	xidase and Oth	3.	Dough", Experimental Data	Submitted by	Applicants in
	33.	Krog, N.J., "Dynamic and Unique Monoglycerides", Cereal Foods World, 24(1): 10-11 (1979).						
	34.	Letters, 491	1: 188-192 (2001).		-	ght Stress Encodes a Galacto		
	35.	Pancreatic 1	Lipase-Related Pro	tein 2 from Gu	inea Pig", Structure, 4(pase A1 activity: Crystal Structure (1996).		
	36.	Cordle, R.A., "The Hydrophobic Surface of Colipase Influences Lipase Activity at an Oil-Water Interface", Journal of Lipid Research, 39: 1759-1767 (1998).						rnal of Lipid
	37.	Sahsah, Y., Leaves", Bi	et al., "Purificatio	n and Characte	15 : 66-73 (1994).	polytic Acylhydrolase from C		-
	38.	O'Sullivan, Plant Physi	J., et al., "A Galactol., 131:393-404 (ctolipase Activ 1987).	ity Associated with the	Thylakoids of Wheat Leaves		
	39.	(1997).		•		ips by Domain Exchange," B	•	
	40.	(1995).	•		, , ,	ols", Enzyme and Microbial	-	
	41.	Industrial N	Aicrobiology, 13:2	42-248 (1994).		Cultures from the ARS C		
	42.	Villeneuve,	P., et al., "Lipase	Specificities: F	Potential Application in	Lipid Bioconversions", Infor	m, 8(6): 640-6	50 (1997).
	43.	539 (1991).			•	and Applications", Angew. Co		
	44.		. et al., "Low-Leve etronics, 10:621-63		ical Detection of Glucos	e Oxidase and a Glucose Ox	idase Conjuga	te", Biosensors

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INFORMATION DISCLOSURE
STATEMENT BY APPLICANT

First Named Inventor

Group Art Unit

1652

(use as many sheets as necessary)

Complete if Known

Application Number

09/824,053

April 3, 2001

Peter STOUGAARD et all ECH CENTER

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Examiner Name

W. Moore

Sheet	3		of	3	Attorne	y Docket Number	54320.000008					
		NON-	PATE	NT LITERATURE D	OCUME	NTS (Including Auth	or, Title, Date, Pertinent Pages, Etc.)					
Examiner	Cite											
Initials*	No. ¹ 45.		Wiseman, A., "Immobilization of Glucose Oxidase into Membranes as Sensors for Food Analysis", Elsevier Science Publishers, (1987).									
	46.		Wilson, R., et al., "Glucose Oxidase: An Ideal Enzyme", <i>Biosensors and Bioelectronics</i> , 7:165-185 (1992). Raba, J., et al., "Glucose Oxidase as an Analytical Reagent", <i>Critical Reviews in Analytical Chemistry</i> , 25(1):1-42 (1995). Volc, J., et al., "Glucose-2 Oxidase Activity in Mycelial Cultures of Basidiomycetes", <i>Folia Microbiol.</i> , 30:141-147 (1985).									
	47.	Raba, J.,										
	48.	Volc, J.,										
	49.	Appl. Mi	crobio	l. Biotechnol., 54 :727-740 ((2000).	<u>-</u>	otechnical Applications in Carbohydrate Chemistry",					
	50.			nalysis for Maltose Monoh								
	51.	TI", Bio.	chimic	a et Biophysica Acta, 1118	:41-47 (19	91).	cooligosaccharide Oxidase from Acremonium strictum					
	52.	Oligosac	charaic	les," Carbohydrate Resear	ch, 58 :193	3-202 (1977).	syltransferase on D-Glucose, Maltose, and Malto-					
	53.	Qi Si, J.,	"New	Enzymes for the Baking In	dustry", F	Food Tech Europe, 3	(1):60-64 (1996), Novo Nordisk Ferment Ltd.					
	54.	Verhalte	n des T	'eiges", Getreide, Mehl Un	d Brot, 26	(10):275-280 (1972)	unterschiedlicher Spezifität auf dzas rheologische ; and English language translation of Abstract.					
	55.	blé tendr	e et le	pétrissage des pâtes", Ann.	Technol.	Agric., 28(4):445-46	technologie boulangère. La maturation des farines de 8 (1979); and English language translation of Abstract.					
	56.	Internati	onal. 2	9(1):81084 (1996):			of Contaminated Yolk in Egg White", Food Research					
	57.	Pub. No. believed	06-29 to be F	6467 (JP 6296467), 10/25/3 Patent Abstracts of Japan V	1994, Sect ol. 095, N	ion No. FFFFFF, Vo o. 001.	d. 94, No. 10, Pg. FFFFFF, FF, FFFF (FFFFFFFF)					
	58.			s of Japan Vo. 016, No. 52								
	59.	Cereal C	uality,	(ed. Hamer & Hoseney), C	Chapter 6,	pp. 131-167 (1998).	of Baked Cereal Products," Interactions: The Keys to					
	60.	Slides pr	esented	by Charlotte Poulsen.(no	copy)	•	ture, Function and Biotechnological Applications,"					
	61.	and Grai	in Proc	essing, pp. 204-214 (1997)).		Bread," The First European Symposium on Enzymes					
	62.	Function	ality, e	ed. Scholfield JP), pp 245-2	260 (1995)		nd Function," Wheat Structure Biochemistry and					
	63.			e for Better Bread," Direct,								
	64.	and char	acteriza	ation of hexose oxidase from	m the red	alga Chondrus crispi						
	65.	seaweed	Chond	rus crispus"	•		pp. 858-861, "Characterization of hexose from the red					
	66.	Wolff, A 189-199,	M., C ''Optii	D. C. Hansen, U. Poulsen, S mization of the Production	6. Madrid, of Chondi	P. Stougaard (2001) us crispus Hexose O	, Protein Expression and Purification., Vol. 22, pp. xidase in Pichia pastoris"					
	67.						on, editor), pp. 49-52 (no copy)					
	68.	WEBST	ER'S T	hird New International Did	ctionary (I	981) - page 1065 (no	о сору)					
	69.	PCT-Inte	rnatio	nal Search Report for PCT/	DK96/002	238, issued 4/11/96						
	70.			nal Search Report for PCT/								
	71.	The Exam	miner's	Report on Application of	Patent Inv	ention (Chilean App	l. No. 939-96) and English translation thereof					
Examiner Signature						Date Considered						

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